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NO. _____

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1993

PATRICIA LANDGRAF,
Petitioner

v.

McDONNELL DOUGLAS HELICOPTER COMPANY,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

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P.O. Box 1388
Clarksdale, Mississippi 38614

Attorney for Petitioner

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QUESTIONS PRESENTED FOR REVIEW

This petition presents the following important questions:

1. Whether the federal government contractor defense should be expanded even further than the United States Supreme Court outlined in *Boyle v. United Technologies Corp.*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988), so as to preclude recovery against a government contractor which does not comply with a detail specification specifically prohibiting a dangerous design flaw on the grounds that the specification was merely precatory.

2. Whether a government entity can impliedly waive a design specification which was specifically incorporated to protect military personnel against extremely hazardous and life threatening situations.

3. Whether the Sixth Circuit panel hearing this case failed to adhere to the standard of review regarding summary judgments as determined by the United States Supreme Court in the cases of *Boyle v. United Technologies Corp.*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988); *Celotex Corp. v. Catrett*, 477 U.S. 317, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986); and *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986).

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CITATION TO OPINIONS BELOW

The relevant opinions on this Petition for Certiorari are the following: (1) The opinion of the United States District Court for the Western District of Kentucky, Honorable Charles R. Simpson, III, granting Respondent's Motion for Summary Judgment, being *Landgraf v. McDonnell Douglas Helicopter Company*, No. 89-0118-P(CS) (April 23, 1992) and the opinion of the United States Court of Appeals for the Sixth Circuit affirming the District Court's Opinion, being *Landgraf v. McDonnell Douglas Helicopter Company*, 993 F.2d 558 (6th Cir. 1993).

JURISDICTION

This cause of action was originally filed by Plaintiff, Patricia Landgraf, against Defendant, McDonnell Douglas Helicopter Company, in the United States

District Court for the Western District of Kentucky, based on diversity of citizenship between the parties. The United States Court of Appeals for the Sixth Circuit entered its Judgment on May 13, 1993, affirming the Summary Judgment of the District Court against the Petitioner, which had been entered on April 23, 1992. The United States Court of Appeals for the Fifth Circuit subsequently denied the Suggestion for Rehearing en Banc, which was concurrently considered as a Petition for the Rehearing under Sixth Circuit Local Rule 14(a), on July 8, 1993. Petitioner now files this petition for certiorari on the grounds that the decision of the United States Court of Appeals has decided an important question of federal law which has not been, but should be, settled by this Court, and that it has decided an

important question of federal law in a way that conflicts with applicable decisions of the United States Supreme Court. Jurisdiction of this Court is therefore invoked under 28 U.S.C. Sec. 1254 (1).

STATEMENT OF THE CASE

Petitioner, a resident of the State of Kentucky, filed this diversity action against McDonnell Douglas Helicopter Corporation, a corporation incorporated under the laws of the State of Delaware, having its principal place of business in the State of Arizona, in the United States District Court for the Western District of Kentucky for the wrongful death of her husband.

On May 20, 1988, Jerome Landgraf, a Chief Warrant Officer in the United States Army, was riding as a technical observer in a McDonnell Douglas OH-6A helicopter operating around the Fort

Campbell, Kentucky area. According to the testimony of a number of eye witnesses, the helicopter began coughing and sputtering while passing overhead. It suddenly veered to the right and the witnesses observed the helicopter main rotor blade cutting off the tail boom of the aircraft. As a result of the loss of the tail boom, the helicopter crashed, killing Jerome Landgraf and the pilot.

Although details of the accident are in dispute, both parties agree that the main rotor of the helicopter did contact the tail boom and cause it to separate from the helicopter during flight.

The OH-6 helicopter in which Jerome Landgraf died was built according to detail specifications which specifically incorporated MIL-S-8698, par. 3.6.5.3, which provides as follows:

> The design of the rotor system(s) shall be such that, upon installation on the helicopter, there shall be sufficient clearance of the blades to the ground, to each other, and to all other parts of the helicopter. * * *. During operation in all flight regimes, the clearance between main rotor blades and other parts of the helicopter shall be not less than 9 inches, preferably 12 inches. * *. The design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter. (emphasis added).

It is uncontroverted that the helicopter main rotor blade contacted the helicopter tail boom, that it did not comply with the above specification, and that the Army never granted an express waiver or deviation in regard to the specification.

In *Boyle v. United Technologies Corporation*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988) the United States Supreme Court adopted what is now

commonly known as the "government contractor defense," which is an affirmative defense that requires the defendant to prove all of the following:

1. that the United States approved reasonably precise specifications;

2. that the equipment conformed to those specifications;

3. that the supplier warned the United States about the dangers in the use of the equipment that were known to the supplier, but not to the United States.

Boyle, 487 U.S. at 512.

Although Petitioner agrees that United States did approve the specification, she states that defendant obviously did not comply because the main rotor blade chopped or broke off the tail boom of the helicopter.

Although the Court of Appeals apparently agreed that MIL-S-8698, par. 3.6.5.3 was incorporated as part of the

detailed specification, it ultimately determined that the specification was merely a "precatory" statement with which the defendant did not have to comply.

As noted by Judge Lively, writing for the majority in the following excerpt from the Sixth Circuit Opinion, on its face, the defendant's position appears hard to defend:

> This case differs in some respects from any other we have seen dealing with the government contractor defense. If it were controlled by strict contract principles, it would be hard to sustain the defendant's position. The language incorporating MIL-S-8698 appears to be clear and unqualified. As such, under contract law, its contents would be binding on McDonnell Douglas unless they conflicted with provisions of the Detail Specification, and there appears to be no conflict.

Landgraf, 993 F.2d at 562.

Petitioner relied on the following evidence to support her opposition to

Respondent's Motion for Summary Judgment: 1) The bald fact that the helicopter did not conform to the specification because it cut its own tail boom off, 2) the testimony of Respondent's own expert that the specification was part of the detail specification and that Respondent was required to either conform or to obtain a deviation, 3) the specificity of the specification itself, and 4) the fact that deviations were sought and obtained for other specifications which were far less precise than the specification in question.

Mort Leib is an expert witness listed by the defendant. He is also a past employee of McDonnell Douglas Corporation and was the person in charge of the development of the OH-6 for McDonnell Douglas Corporation. Mr. Leib admitted unequivocally that the

specification in question was contained in the detail specification and that if MIL 8698 par. 3.6.5.3 said that he had to design a helicopter to preclude the possibility of blades striking any part of the helicopter that the design people would have to take care of all the dynamics and the aerodynamics to assure that in all normal flight conditions there was no contact.

Mr. Leib stated that McDonnell-Douglas was required to comply with any specification incorporated into the detailed specification unless it applied to the Army for a waiver and received one. Appendix II to the detail specification contains a host of deviations, including numerous deviations from specifications listed in incorporated documents. No deviation, however, is listed for the requirements of MIL-S-8698 par. 3.6.5.3, and this

paragraph was not otherwise rewritten to eliminate the requirement that the main rotor blade not strike the tail boom.

It is highly probative and significant that deviations were sought and granted for less specific provisions of incorporated documents where requirements of the provisions could not be met. For example, the General Requirements for Helicopter Flying and Ground Handling Qualities (3 Apr. 1962) ("MIL-H-8501A") was incorporated into the Detail Specification. Paragraph 3.2.11 of MIL-H-8501A requires that the "helicopter shall exhibit satisfactory dynamic stability throughout the flight envelope." Deviation Number 5 of Appendix II allows that the "OH-6A will not meet this requirement at the critical corners of the flight envelope." Also of note is the fact that a deviation was granted for another

paragraph of MIL-S-8698. Specifically, the requirement of MIL-S-8698 par. 3.6.3 that the "hub effective damping shall be at least 30 percent of critical damping" was eliminated. Paragraph 3.4.6 of the Detail Specification echoes this: "The helicopter need not meet the requirements of paragraph 3.6.3 of MIL-S-8698 (see Appendix II, Deviations)." The existence of these deviations and a host of others strongly infers that the Army expected the helicopter to conform to all incorporated specifications unless it specifically granted a written, express exception or deviation.

The specification in question is a safety specification which specifically forbids a situation which is extremely hazardous and invariably fatal if it occurs in flight, and written waiver of this requirement should have been specifically incorporated in the

deviations section if the specification of the Army intended to grant a waiver or deviation.

In his dissenting opinion Judge Nathaniel R. Jones of the Sixth Circuit Panel hearing the appeal noted as follows:

> Without considering anything else in the record, it seems clear that the Detail Specification for the helicopter in question contained a reasonably precise specification that the main rotor blade avoid striking the tail boom in all flight regimes. Since, as Judge Lively's opinion notes, "[i]t is undisputed that the fatal crash was caused by the [main rotor blade] striking and severing of a portion of the tail boom," the helicopter did not conform to this reasonably precise specification, and summary judgment was inappropriate on the basis of the government contractor defense. Admittedly, however, there is more to consider.

Landgraf, 993 F.2d at 565.

Without considering anything that the defendant had to say, the case for

the plaintiff as to the government contractor defense appears to be impregnable, and this is not a trial but a motion for summary judgment in which the deck should be stacked for the non-movant.

The facts that the court found sufficient to affirm the grant of summary judgment to the defendant were:

1. That the Army and McDonnell Douglas worked closely on the OH-6A project through the planning and development phase.

2. That no aircraft could be certified as completed by the manufacturer until it had been checked against the Detail Specification and approved by Army inspectors.

3. That many design changes were incorporated.

4. That tests were conducted on "control motion and subsequent main rotor blade motion on the tail boom" as a result of and incident in which the main rotor of an Army helicopter struck the tail boom at the termination of a power-off landing.

5. That the main rotor did come within three inches of the tail boom during some of the tests and the Army was aware of the tests.

The majority's holding in this case was as follows:

> We hold only that the facts in this case establish that no design has produced a helicopter, in which the main rotor can never strike the tail boom under any set of conditions. The fact that MIL-S-8698 par. 3.6.5.3 was adopted twelve years before planning for the OH-6A began and was addressed to different helicopters reenforces our conviction that it was a precatory statement only. When Hughes conducted the simulated landing tests that produced only a three inch clearance, the Army did

> not order additional testing or design changes. This was an exercise of discretion.

(Majority Opinion p. 14). (Emphasis added.)

The Question, however, was whether no reasonable jury could find for the plaintiff on the facts presented, or could conclusively find that the reasonably precise specifications of MIL-S-8698 par. 3.6.5.3 were superseded by subsequent actions such that the "ultimate" reasonably precise specifications for the helicopter in question did not mandate that the main rotor blades never touch the tail boom.

The majority apparently reasoned that an example of such a potential modification is that the Army, having directed that tests of the OH-6A's main rotor blade motion be conducted, seemed to accept the test results (prepared by Hughes Tool Company, Aircraft Division,

on September 26, 1969) that the main rotor blades came to within three inches of the tail boom, whereas MIL-S-8698 par. 3.6.5.3 required a greater clearance. However, these tests were merely tests regarding main rotor - tail boom contacts during forced landings and were conducted on a helicopter on the ground which had its tail boom removed and which was not subject to any of the additional variables which would have been present in flight. The test was directed towards problems occurring during a landing, not during a flight. If the main rotor blade had contacted the tail boom during landing, it would have been a bad situation, but it is not comparable to the instant situation where the contact occurred while the helicopter was in flight. Thus, even if the majority was correct in its perceived inference as to the state of

mind of the Army, it is easily conceivable that the Army could have consented to this reduced clearance situation during emergency landings but had no intention to do so during other flight regimes.

However, the three inch clearance was not the only requirement of MIL-S-8698 par. 3.6.5.3, which also provided that: "The design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter." Therefore, even if the government did submit to a three-inch minimum clearance, the defendant still must conclusively prove that the Army accepted the possibility that the main rotor blade might strike the tail boom, and especially that the blade might strike the tail boom during flight.

During the period of time that the OH-6A helicopter was in the testing stage, the records indicate that a main rotor blade struck a tail boom when an OH-6 helicopter touched down during a power-off landing. Consequently, the Army requested more testing "for the purpose of investigating tail boom strikes on OH-6A [aircraft]. . . . The final result of this effort [was to be] the determination of possible changes to the OH-6A configuration leading to a reduction in the probability of tail boom strikes." Although the majority took the latter statement to mean that "[t]he Army apparently did not believe there could be a complete elimination of the probability of such strikes, only a reduction in that probability," a jury could reasonably infer that the Army

wished to reduce that probability to zero, given the devastating nature of such an event.

The results of the test were made known to the Army, but there is no evidence in the record that the Army responded, and even if they had responded, they would still have been discussing improving the main rotor contact situation in regard to forced landings. Did the Army believe that the variables not taken into account during these tests would not diminish the clearance further? Was the Army convinced from this report that the tail boom strike incident was the result of a manufacturing, as opposed to a design, defect? If so, then the military did not necessarily accept a modification of the no-strike requirement of MIL-S-8698 par. 3.6.5.3 or treat MIL-S-8698 par. 3.6.5.3 as a precatory statement.

Even though it might be argued that the government knew and accepted the fact that, under certain conditions, such as a forced landing or abrupt violent movement of the control stick, that a rotor blade might strike the tail boom, if such a condition did not exist during Landgraf's flight, then the no-strike provision of MIL-S-8698 par. 3.6.5.3 would arguably control. Whether or not the condition existed is a question of fact for the fact finder, and the cause of the accident has not been conclusively proven by the defendant.

The majority of the panel hearing this case held that inference as to the alleged conduct of the Army were sufficient to take this case from the jury even though the controlling documents stated that the specification in question was part of the detailed

specification and even though McDonnell Douglas' own employee in charge of development stated that it was so. The evidence that the government acquiesced in a modification of MIL-S-8698 par. 3.6.5.3 is simply not sufficient to say that there is no genuine issue as to any material fact and that McDonnell Douglas is entitled to a judgment as a matter of law. Whether the helicopter design at issue in this case conformed to the reasonably precise specifications approved by the Army is essentially a question of fact. In Boyle the United State Supreme Court specifically ruled that the fact finder must determine what the "ultimate" reasonably precise specifications were and whether the helicopter conformed to them. Boyle, 487 U.S. at 514. The "ultimate" reasonably precise specifications as they relate to the main rotor blade-tail

boom clearance in this case, based on the record evidence, could lie anywhere between no clearance at all and nine inches, with three inches being a reasonable possibility. The answer to this question determines the availability of the government contractor defense. Since the "pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits," Fed. R. Civ. P. 56(c), viewed in a light most favorable to the nonmoving party show there to be a genuine issue of fact on an issue critical to whether McDonnell Douglas is entitled to the government contractor defense in this case, this Court should grant certiorari, reverse the judgment of the Sixth Circuit Court of Appeals and remand the case for further proceedings.

ARGUMENT FOR ALLOWANCE OF THE WRIT

As outlined in *Boyle, supra,* the federal government contractor defense strictly requires the defendant to prove that it has conformed to a reasonably precise specification approved by the government agency. In this case the majority of the panel found, as a matter of law, that the Army had *impliedly* waived a specification forbidding the main rotor blade of the helicopter from coming within 9 inches of the tail boom and that the specification was "precatory." They did not find specifically that no reasonable jury could find for the plaintiff in this action, and the mere fact that one of the justices dissented from the majority is plain evidence that a reasonable jury *could* find for the plaintiff.

Since a Federal Court of Appeal reviews an order granting summary

judgment de novo, it must find that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. *Celotex Corp. v. Catrett*, 477 U.S. 317, 106 S.Ct. 2548, 2552, 91 L.Ed.2d 265 (1986); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 106 S.Ct. 2505, 2510, 91 L.Ed.2d 202 (1986). Summary judgment is also inappropriate where there is a genuine disagreement as to the reasonable inferences to be drawn from undisputed facts, *Fischback and Moore, Inc. v. Cajun Electric Power Cooperative, Inc.*, 799 F.2d 194, 196 (5th Cir. 1986), and if there are any inferences to be drawn from the underlying facts, they must be viewed in the light most favorable to the party opposing the motion. *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 106 S.Ct. 1348,

1356-57, 89 L.Ed. 2d 538 (1986). Furthermore, all factual uncertainties are resolved and all reasonable inferences are drawn in favor the nonmovant. *Meyers v. M/V Eugenio C*, 842, F.2d 815, 816 (5th Cir. 1988).

Under Rule 56 of the Federal Rules of Civil Procedure, the movant has the burden of clearly establishing the lack of any triable issue of fact by the record properly before the court. *Bell v. Cameron Meadows Land Co.*, 669 F.2d 1278 (9th Cir. 1982). The papers of the movant are carefully scrutinized; and those of the opposing party are on the whole indulgently regarded. *Bishop v. Wood*, 426 U.S. 341, 96 S.Ct. 2074, 48 L.Ed. 2d 684 (1976).

In *Boyle*, 487 U.S. at 514, this Court held that whether the facts of the case established the government contractor defense was a question for

the jury, and that the Court of Appeals, assessing on its own whether the defense had been established would be error. That is precisely what occurred in this case.

The evidence in this case supporting the plaintiff's contention that the helicopter did not conform to the specification was the following: (1) The helicopter main rotor blade struck the tail boom; (2) the defendant received deviations for other specifications which were far more general than the one in issue when the specification could not be met; (3) defendant's expert witness, who was in charge of development of the helicopter testified unequivocally that the helicopter had to conform to the specification unless McDonnell Douglas received a deviation; and (4) the fact that the specification was indeed

reasonably precise, spelling out exact measurable tolerances. Viewing the evidence submitted by the plaintiff in the light most favorable to her, there is no question that the evidence was sufficient to withstand a motion for summary judgment under Rule 56 of the Federal Rules of Civil Procedure. The effect of the Sixth Circuit's ruling is to set a much higher evidentiary burden in a government contractor case than would normally be required. In fairness, the government contractor defense should be strictly construed in favor of the plaintiff. The defendant should be required to prove its case if it does not clearly prove that it is entitled to the defense.

Cases regarding the government contractor's defense are scarce and this case will impact enormously on the jurisprudence in this area. This case

will have the effect of emasculating the second prong of the Boyle decision and will permit a trial court to take a case from the jury on its own assessment of the facts, even when a contractor admittedly did not conform to the detailed specification, so long as the court, and not the jury, finds an *inference* that the government waived compliance with the specification by its actions, even in situations where the specification was one designed specifically to protect military personnel. This case is also in direct conflict with *Boyle v. United Technologies Corp.*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988).; *Celotex Corp. v. Catrett*, 477 U.S. 317, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986); and *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986) in that the majority affirmed

taking the case from the jury under a standard that was not a summary judgment or directed verdict standard, but was simply the same standard that the Court would have used had it been the finder of fact.

The Court of Appeals in this case determined that the evidence showed that the Army had impliedly waived the specification. The evidence is undisputed in this case that the Army did not explicitly waive the requirement, for that is the precise purpose of the deviations that the Army granted for other design problems. The specification in question is a safety specification and was specifically designed to protect the integrity of the aircraft and the lives of its crew. This is not a specification which should be waived by implication and treated as a precatory statement only. If a

dangerous non-conforming design specification is utilized, then, as a matter of law, it should be explicitly waived. If not, the contractor should fail the second prong of the *Boyle* test and should be required to prove in Court that it did not defectively design its aircraft.

Finally, there is no evidence in the record which even indicate or infers that there was any discussion between the Army and McDonnell Douglas regarding the trade-off between greater safety and greater combat effectiveness in regard to impliedly waiving the portion of the detail specification in question, which would be the only reason for waiving a specification specifically incorporated for protection of military crewmen.

For the foregoing reasons, your Petitioner respectfully prays that this petition for writ of certiorari be granted.

Respectfully submitted,

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APPENDIX

PAGE

1. Memorandum Opinion dated April 23, 1992, of the United States District Court of the Western District of Kentucky granting Summary Judgment for the Respondent . . 37

2. Opinion of the Court of Appeals for the Sixth Circuit date May 13, 1993, *Landgraf v. McDonnell Douglas Helicopter Company, et al.*, 993 F.2d 558 (6th Cir. 1993). 68

3. Order of the Court of Appeals the Sixth Circuit dated July 8, 1993, denying petition for Rehearing filed by Petitioner herein 122

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
PADUCAH DIVISION

Civil Action No. C-89-0118P(CS)

PATRICIA LANDGRAF, AS
EXECUTRIX OF THE ESTATE
OF JEROME LANDGRAF

PLAINTIFF

VS.

McDONNELL DOUGLAS HELICOPTER
COMPANY, HUGHES HELICOPTER,
INC., and HUGHES TOOL COMPANY

DEFENDANT

MEMORANDUM OPINION

Plaintiff, Patricia Landgraf, brought this diversity action against McDonnell Douglas Helicopter Company, ("McDonnell Douglas"), Hughes Helicopter, Inc., ("Hughes Helicopter"), and Hughes Tool Company, ("Hughes Tool").[1] Landgraf alleges that the defendants' design, manufacture, and sale of a helicopter

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[1]McDonnell Douglas is the successor corporation of Hughes Helicopter and Hughes Tool.

caused the wrongful death of her deceased husband, Jerome Landgraf.

This case stands submitted on McDonnell Douglas' motion for summary judgment, asserting the government contractor defense.

I

The facts may be summarized as follows: Hughes Tool Company Aircraft Division, now McDonnell Douglas, designed and manufactured Army No. 68-17276, an OH-6A helicopter for the United States Army. They delivered 68-17276 to the Army in 1969. The Army subsequently modified the helicopter into the AH-6A (attack) configuration. The modified 68-17276 was assigned to the 160th SOAG at Fort Campbell, Kentucky.

On May 20, 1988, CW3 Stephen Hansen and CW3 Jerome Landgraf (plaintiff's deceased husband), left

Fort Campbell on a routine training flight in helicopter 68-17276. During the training flight, the helicopter experienced engine trouble, resulting in power loss. As the aircraft went into zero or near zero forward airspeed, the main rotor blades slowed to the point where a balanced lift for normal operations could no longer be maintained. Due to the excessively low rotor blade RPM, the blades began to "flap." That is, the blades made vertical movements beyond their normal range. One of the main rotor blades struck the tailboom of the helicopter. The tailboom was severed from the helicopter. The aircraft crashed, leaving no survivors.

II

McDonnell Douglas seeks summary judgment claiming that the government contractor defense bars this suit

against it. Landgraf contends that summary judgment is improper because all elements of the government contractor defense have not been met.

The Supreme Court established the government contractor defense in *Boyle v. United Technologies Corp.*, 108 S. Ct. 2510 (1988). *Boyle* involved a wrongful death action brought against an independent contractor who supplied a military helicopter to the United States. *Id.* at 2513. A United States Marine helicopter pilot was killed during a training mission when his helicopter crashed off the coast of Virginia. *Id.* Although the pilot survived the impact, he drowned when he was unable to open the escape hatch. *Id.* He could not open the hatch, which had been designed pursuant to a government contract to open outward, because the design rendered the hatch ineffective

against water pressure once the helicopter became submerged. *Id.* The pilot's father sued the helicopter's manufacturer. *Id.*

At trial, Boyle presented two theories of liability under Virginia tort law to the jury. *Id.* Specifically, he claimed that the defendant defectively repaired the component of the helicopter's automatic flight control system that allegedly caused the crash and that the defendant defectively designed the emergency-escape hatch. *Id.* The jury returned a verdict in favor of Boyle and the district court denied defendant's motion for judgment notwithstanding the verdict. *Id.*

The United States Court of Appeals for the Fourth Circuit reversed and remanded with directions that judgment be entered for the defendant. *Id.* In addition to finding that Boyle had

failed to meet his burden under Virginia law, the court also applied its newly recognized "military contractor defense," as a matter of federal law. *Id.* The Supreme Court granted Boyle's petition for writ of certiorari.

The Court approved the judicial recognition of the contractor defense, finding that a uniquely federal interest exists in cases involving civil liabilities arising out of the performance of government procurement contracts. *Id.* at 2514. Recognizing that these suits involve disputes between-private parties, the Court went on to point out that the imposition of liability on government contractors would have a direct effect on the terms of government contracts. *Id.* at 2515. The Court opened that the interests of the United States would be directly affected in one of two ways -- either by

declination to manufacture the design specified by the government or rise in price of the requested good. *Id.* After examining the potential conflicts between state law and the federal interest of obtaining military equipment, the Court found displacement of state law to be warranted. *Id.* at 2516-18.

Thus, the Court set forth the government contractor defense.

> Liability for design defects in military equipment cannot be imposed, pursuant to state law, when (1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier warned the United States about the dangers in the use of the equipment that were known to the supplier but not to the United States.

Id. at 2518. The Court explained that the first two conditions assure that the suit fall within the area of "discretionary function" by a government officer. *Id.* The third condition

guarantees the free flow of information necessary to aid and protect the discretionary function as well as eliminates any incentive that the defense may create for contractors to withhold knowledge of risks. *Id.*

Boyle specifically provides that the government contractor defense is applicable to claims based upon design defects. *Id.* at 2518. The cases following *Boyle* have involved strict liability and/or negligence claims arising from design defects. *In re Aircraft Crash Litig. Frederick, Maryland*, 752 F. Supp. 1326, 1336 (S.D. Ohio 1990) *aff'd*, 935 F.2d 269 (6th Cir. 1991) (citations omitted). The defense has also been applied to claims of breach of warranty in tort arising

from design defects. *Id.* (citations omitted).

In her complaint, plaintiff raises three separate grounds for recovery; negligence, strict liability, and breach of warranty. McDonnell Douglas seeks summary judgment on all three claims.

Landgraf asserts that genuine issues of material fact exist concerning the specific details of the accident. She cites as examples the height, airspeed, and main rotor speed of the helicopter before the crash. Furthermore, without setting forth their specific positions, the parties have made it clear that they disagree as to the actual cause of the crash. While these disputes concededly concern factual issues, our focus at this juncture of the proceedings lies elsewhere. We are concerned only with whether the government contractor

defense bars Landgraf's claims. *See Stout v. Borg-Warner Corp.*, 933 F.2d 331, 334 (5th Cir. 1991).

Summary judgment is appropriate only if McDonnell Douglas can establish that there is no genuine issue of material fact with regard to each element of the government contractor defense. *See In re Aircraft Crash*, 752 F. Supp. at 1369. The parties do not dispute either the first or third elements. Therefore, our analysis is limited to the only contested issue, *i.e.* whether the helicopter conformed to the reasonably precise specifications set by the United States.

Both parties agree that the United States Army approved reasonably precise specifications. Those specifications are set out in bulletin HTC-AD 369-Y-8003A, DETAIL SPECIFICATION FOR A SINGLE ENGINE, SINGLE MAIN ROTOR LIGHT

OBSERVATION HELICOPTER ARMY MODEL DESIGNATION OH-6A, provided by McDonnell Douglas in support of its motion for summary judgment. Landgraf correctly points out that the overall specifications in HTC-AD 369-Y-8003A incorporated document MIL-S-8698.

McDonnell Douglas contends that the helicopter met the above-referenced specifications. In support of this contention, it offers the affidavits of two persons involved in the development of the helicopter as well as the documents exchanged between Hughes and the Army during said development. McDonnell Douglas also relies on the extensive testing and refining of the helicopter which took place over the course of four years, with the Army in active participation. We now examine the proof offered by the parties in support of their respective positions.

Crawford Affidavit

Charles Crawford acted as Chief of the Technical Management Division of the Light Observation Helicopter ("LOH") Project Manager's Officer and eventually Deputy Project Manager for the United States Army Material Command Headquarters in Alexandria, Virginia, during development of the helicopter in question. His principle duties in the LOH project were to oversee the development of contract technical specifications and to plan the competitive fly-off between the three competing LOH designs. One of these designs was the OH-6A. Crawford transferred to the United States Army Aviation Systems Command in St. Louis, Missouri, in 1966 to establish an organization within the Army to manage the development and qualifications of its own aircraft. Crawford continued to

oversee and manage the development of Army aircraft through July, 1988.

The LOH design competition was formally initiated in October, 1960. Twelve manufacturers submitted seventeen proposals which were evaluated by the United States Navy Bureau of Weapons. The Navy selected two proposals for recommendation to the Army's senior leadership; one from Hiller Helicopters and one from Bell Helicopters. The Navy evaluation found that the Hughes Tool Company submitted design did not warrant further consideration because is was too high risk.

Despite the Navy's reservations, some Army officials favored the Hughes' design due to the fact that it was substantially smaller and lighter than any of the other proposed aircraft. One of the LOH Design Selection Board members filed a minority paper

recommending consideration of the Hughes' submission despite the Navy's rejection. Consequently, the Office of the Secretary of Defense directed the Design Selection Board to reconvene and consider the Hughes' submission. Three designs for prototype testing were selected; the two previously selected by the Navy and the Hughes (OH-6A). The Navy took no further responsibility for LOH procurement.

The initial prototype OH-6A first flew in February, 1963. Hughes and FAA testing continued through 1963. Army testing began in March, 1964. The OH-6A obtained a FAA Type Certificate on June 30, 1964. The Army Aviation Test Board released its Final Report of the Military Potential Test of the OH-6A in mid-1964. Army engineering flight test reports were issued in August of that same year.

These test reports represented the culmination of hundreds of hours of flight testing and Army evaluation of virtually every design and performance aspect of the OH-6A. An Army evaluation group made a recommendation to the LOH Design Selection Board after review all of the test materials. The Board recommended that the Army obtain production bids on two aircraft, the Hughes and Hiller.

The two manufacturers engaged in a bidding process. First, they submitted a detail specification as part of the technical proposal. Second, they submitted a bid on a fixed price contract. Hughes' detail specification reflected many changes and refinements in its original prototype resulting from exhaustive testing by both Hughes and the Army as well as design changes required by the Army for mission

performance and reliability. Hughes submitted its detail specification in April, 1965, followed by its price bid in May, 1965. Hughes obtained the production contract.

Army flight testing continued after award of the production contract to further refine the aircraft's reliability and improve mission capabilities. The Army requirements exceeded those of FAA certification due to the demanding nature of military missions.

The production contract required that a Detail Specification set by the Army be met for the aircraft. The Detail Specification for the helicopter referenced or included by reference many other military specifications, referred to as "lower tier specifications."[2] The

[2]An example of these referenced documents is MIL-S-8698 relied upon by Landgraf in opposition to the motion for summary judgment.

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tiered specifications also include references to other documents. The Army specifies that only the first tier specifications are mandatory and that references within those specifications are not. Any conflict between the Detail Specification and lower tier specifications are resolved in favor of the Detail Specification. The Detail Specification is the document that each aircraft is checked against for conformity, making it the prevailing document for the requirements of the aircraft.

The Detail Specification for the OH-6A (HTC-AD 369-4-800 3A), was issued in April, 1965, and represented the results from approximately 5,000 flight hours of testing between 1963 and 1965. Once approved by the Army, no deviation could be made from the Specification without written approval from the Army.

The Detail Specification was adopted in May, 1965. All further changes in the helicopter design were accomplished only as directed and approved by the Army.

Each OH-6A was inspected by the Army throughout production. No OH-6A was allowed to be certified as complete until it had been inspected and approved by Army inspectors at the Hughes plant. The Certificate of Completion on OH-6A 68-1726 (the helicopter in question), was granted on August 14, 1969, certifying its conformance to the Detail Specification, with any exceptions noted on the certificate. The Army continues to use the OH-6A and subsequent variations today.

Leib Affidavit

Morton Leib worked for Hughes Tool Company, Aircraft Division and its successor, McDonnell Douglas Helicopter Company from 1961 through 1991. During

1961-1965, Leib acted as Chief Test Engineer, Light Helicopter Department. In 1965, he was appointed Project Engineer, LOH Department. During this time, he managed the prototype and developmental testing of the Army OH-6A.

In addition to affirming many of the statements found in the Crawford affidavit, Leib offered the following information. When Hughes became involved in the Army's LOH competition, it built and delivered seven prototype OH-6As for testing. After approximately 300 flight hours of testing between March and June of 1964, the Army Aviation Test Board issued a report on the suitability of the OH-6A for the LOH mission. The report was entitled "Final Report of Military Potential Test of the OH-6A Light Observation Helicopter (LOH).

Between April and July, 1964,

engineering test flights were conducted on the aircraft. The results were published by the Army Aviation Test Activity in a two part report entitled "Report of the Engineering Flight Test." Both parts, Stability and Control Phase and Performance Phase, were published in August, 1964.

During this testing, Leib was in continuous communication with the Army. The Army assigned project personnel to Hughes to monitor and evaluate the progress of the OH-6A program. Many changes were made as a result of testing and continued Army evaluation.

After continued testing, the Army sent Hughes a letter contract DA 23-204-AMC03888(Y), dated February 11, 1966, to initiate a product improvement program for the OH6A. The Army deemed this program necessary to improve the OH-6A mission capability, increase its

availability, and reduce operating costs. Some of the investigated items were incorporated into the OH-6A design. These decisions concerning incorporation were made solely by the Army.

The final specifications for the OH-6A were the result of continuous Army input and refinements made to the prototypes to achieve a product which would satisfy the Army's LOH requirements. After approval of the specifications by the Army, changes could only be made with Army approval. The Army directed and closely supervised all developmental work on the prototypes and design.

Another 136 flight hours were flown by the Army Aviation Systems Test Facility between November, 1966, and February, 1968, to determine the OH-6A's compliance with the Detail Specification as well as to conduct improvement tests.

A report was issued after those tests in April, 1969.

All flight test evaluations and tests included evaluations of the autorotative characteristics of the aircraft. These evaluations were made both by Army and Hughes personnel. During July and August of 1969, the Army requested that additional tests be conducted on the OH-6A to evaluate the possible effects of control motion and subsequent main rotor blade motion on the tailboom. These tests were ordered as a result of an incident involving the Army where the main rotor struck the tailboom at the termination of a power-off landing during testing. The new tests were done in simulated autorotational landing conditions. The main rotor RPM for the tests ranged from 180 to 400; with normal operating range being 400 to 514 RPM. No main rotor

contact with the tailboom occurred during the tests. The closest any blade came with the tailboom was three inches. Hughes prepared a report, "Main Rotor Blade Motion Study," summarizing the test findings for the Army. At no time did Hughes become aware any propensity of the main rotor to strike the helicopter during flight.

Hughes certified the aircraft as complete and in compliance with the contract on August 14, 1969. Shortly thereafter, the FAA certified the aircraft to be in compliance with the FAA type certificate and a Conformity Certificate was issued. The Army inspected and accepted the aircraft.

Borowitz Affidavit

John Borowitz gave his affidavit as a custodian of records for McDonnell Douglas. The documents submitted by McDonnell Douglas in support of its

motion for summary judgment including the testing, certificates, Detail Specification, etc., were kept in its regular course of business. The records submitted in support of its motion for summary judgment were either original or exact duplicates of the original documents.

Cochran Deposition

Landgraf contests the motion for summary judgment, asserting that the helicopter in question did not comply with the Detail Specification. She relies on the deposition of John E. Cochran, Jr., Ph.D., J.D., P.E. Landgraf retained Cochran in the case at bar as an aeronautical engineer with knowledge regarding helicopters and their manufacturing specifications. She retained him to render an opinion as to the cause of the accident.

Cochran opined that the crash was caused, in significant part, due to main rotor blade striking of the tailboom. Cochran contends that MIL-S-8698 was incorporated into the Detail Specification and, therefore, had to be met.[3] He further suggests that because the main rotor blade struck the tailboom, the helicopter *ipso facto* failed to meet the Detail Specification.

However, Cochran admitted that he can point to no Army document indicating that the helicopter failed to meet either the Detail Specification or any other MIL specification. He also admitted that the Army approved the helicopter specifications, accepted the helicopter; and has purchased the final

[3]MIL-S-8698 required the manufacturer to design a helicopter so as to preclude the possibility of the main rotor blade coming into contact with the tailboom and directed that the clearance between the main rotor blade and tailboom should never be less than nine inches, preferably twelve.

product of these specifications for over twenty years.

Analysis

McDonnell Douglas has demonstrated by way of Fed. R. Civ. P. 56 materials the absence of a genuine issue of fact material to the second clement of the *Boyle* defense. Landgraf is unable to contradict the evidence presented by McDonnell Douglas that the helicopter met the Detail Specification set by the Army.

The defendant has shown the close involvement of the Army in the development, testing, and final production of the aircraft. This salient fact of governmental participation in the various stages of the helicopter's development is crucial to establishing the government contractor defense. *See Kleeman v. McDonnell Douglas Corp.*, 890 F.2d 698,

701 (4th Cir. 1989). Where the military procurement process involves the kind of continuous exchange between the government and the contractor, as evidenced in the case at bar, the process itself becomes persuasive evidence that the product conformed to precise specifications. *Id.* at 702. McDonnell Douglas has also proved that the Army accepted the aircraft as being in conformity with the contract and, thus in conformity with the specifications.

Landgraf has failed to introduce any evidence which suggests that the Army rejected the aircraft or found it to be in noncompliance with the specifications. The only evidence offered to rebut McDonnell Douglas' position is the opinion of Landgraf's expert, Cochran. Cochran's opinion, standing alone, is insufficient to

overcome McDonnell Douglas' motion for summary judgment. *See Monks v. General Elec. Co.*, 919 F.2D 1189, 1193 (6th Cir. 1990). When the moving party has carried its burden under Rule 56(c), its opponent must do more than simply show that there is some metaphysical doubt as to the material facts. *Matsushita Elec. Indus. Co. v. Zenith Radio*, 475 U.S. 574, 586 (1986). The language of the Rule requires the nonmoving party to come forward with "specific facts showing that there is a genuine issue for trial." *Id.* at 587.

We are not persuaded that simply because the main rotor blade came into contact with the tailboom the helicopter failed to meet the ultimate design specifications. "Nonconformance must mean more than that the design does not work in compliance with some 'general admonition against an unwanted

condition.'" *Kleeman*, 890 F.2d at 703 (citation omitted). If this were so, any product involved in a design-induced accident would always be deemed not to comply with such generalities since no performance specifications approved by the government would purposely allow a design that would result in an accident. *Id.* "A product conforms to reasonably precise specifications if it satisfies 'an intended configuration' even if it 'may produce unintended and unwanted results.'" *Id.*

The case before us is precisely the kind of case to which the government contractor defense was intended to apply. That is, the defense seeks to preclude "second-guessing" of government judgments concerning procurement contracts through state tort suits against contractors. *See Boyle*, 108 S. Ct. at 2518. McDonnell Douglas has

established the absence of any genuine issue of material fact concerning the elements of the government contractor defense and it is, therefore, entitled to summary judgment as a matter of law. The motion for summary judgment will be **GRANTED** by separate order.

This, 23rd day of April, 1992.

/ s /
CHARLES R. SIMPSON, III
UNITED STATES DISTRICT JUDGE

cc: Counsel of Record

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

PATRICIA LANDGRAF, Executrix of the Estate of Jerome Landgraf,
Plaintiff-Appellant,

v.

McDONNELL DOUGLAS HELICOPTER COMPANY, et al.,
Defendants-Appellees.

993 F.2d 558

May 13, 1993.

Before: JONES and NELSON, Circuit Judges; and LIVELY, Senior Circuit Judge.

LIVELY, Senior Circuit Judge, delivered the opinion of the court, in which NELSON, Circuit Judge, joined. JONES, Circuit Judge, delivered a separate dissenting opinion.

LIVELY, Senior Circuit Judge. In this wrongful death action by the widow of an Army chief warrant officer who was killed in a helicopter crash, the

district court granted the helicopter manufacturer's motion for summary judgment on the basis of the "government contractor defense" recognized by the Supreme Court in *Boyle v. United Technologies Corp.*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988). The question for us is whether a pre-existing Military Specification (MIL-S), which was incorporated by reference in the Detail Specification for the helicopter involved in the fatal crash, constituted a "reasonably precise specification" that the manufacturer was required to meet. In an unpublished opinion, the district court held that the MIL-S was not part of the "ultimate design specifications" for the helicopter; instead, the court treated the MIL-S requirements as part of a " 'general admonition against an unwanted condition.' "

(quoting Kleemann v. McDonnell Douglas Corp., 890 F.2d 698,

703 (4th Cir.1989) (citation omitted)).

The parties agree that the Army provided reasonably precise specifications for the aircraft, but disagree as to whether such specifications consisted only of requirements in the Detail Specification or those requirements plus those contained in the incorporated materials, *559 including this particular MIL- S. The ultimate question of whether the helicopter conformed to reasonably precise specifications depends on our determination of what constituted the "reasonably precise specifications."

I.

The helicopter involved in the accident, serial number 68-17276, was manufactured by Hughes Tool Company, Aircraft Division, now McDonnell Douglas

Helicopter Company. A light observation helicopter, designated by the Army as model OH-6A, it had been built in 1969. The Army later modified the aircraft into an attack helicopter, known as a model AH-6C.

A.

On May 20, 1988, the helicopter crashed during a training flight in the area of Fort Campbell, Kentucky. The plaintiff's decedent, Jerome Landgraf, was aboard as a technical observer. Eyewitnesses testified that the helicopter appeared to have lost power, and some said the aircraft appeared to veer sharply to the right as it descended. The speed of the main rotor dropped sharply and one of the main rotor blades struck the tail boom and severed it. The helicopter then fell the final 100 feet of its descent and

crashed violently. Neither the pilot nor Landgraf survived.

The record does not contain any evidence other than opinion testimony concerning the airspeed before the helicopter began erratic movements or the actual speed of the main rotor either then or at the time it came into contact with the tail boom.

B.

Patricia Landgraf filed this action as executrix of her husband's estate, seeking damages under Kentucky law. The district court had jurisdiction based on diversity of citizenship of the parties. McDonnell Douglas supported its motion for summary judgment with affidavits and exhibits. The plaintiff sought to avoid summary judgment by relying on the deposition of her expert witness as well as documents filed by the defendant

and some statements of the defendant's witnesses.

The district court concluded that the plaintiff had failed to carry her burden under present-day summary judgment practice to identify genuine issues of material fact after the defendant supported its motion with evidence from which the court could find that the government contractor defense applied to this case. On this basis the district court held that McDonnell Douglas was entitled to judgment as a matter of law. FED.R.CIV.P. 56(c).

II.

In *Boyle v. United Technologies Corp.*, 487 U.S. 500, 108 S.Ct. 2510, 101 L.Ed.2d 442 (1988), the Supreme Court held that federal law displaces state law in areas of " 'significant conflict' " between an "identifiable

'federal policy or interest and the [operation] of state law' " when state law acts to " 'frustrate specific objectives' " of federal legislation. Id. at 507, 108 S.Ct. at 2516 (alteration in original) (citations omitted). This condition may exist where state tort law holds a government contractor liable for design defects in military equipment manufactured in compliance with "reasonably precise specifications" imposed by the government. The theoretical support for this defense lies in the fact that if the injured party sought recovery from the government under the Federal Tort Claims Act, rather than from the contractor, the government would prevail under the "discretionary function exception" to that Act's waiver of immunity. Id. at 511-12, 108 S.Ct. at 2518-19. If a contractor were held

liable under facts which would have brought an FTCA claim within the discretionary function exception, the government's immunity would be largely illusory. Such liability would "directly affect the terms of Government contracts." Id. at 507, 108 S.Ct. at 2516.

To escape liability under state law for design defects in military equipment on the basis of this defense, a contractor must establish three conditions: "(1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier warned the United States about the dangers in the *560 use of the equipment that were known to the supplier but not to the United States." Id. at 512, 108 S.Ct. at 2518.

As the court pointed out in *Harduvel v. General Dynamics Corp.*, 878 F.2d 1311 (11th Cir.1989), *cert. denied*, 494 U.S. 1030, 110 S.Ct. 1479, 108 L.Ed.2d 615 (1990), "[t]he three conditions serve to ensure that the defense operates to immunize the contractor only where the government has actually participated in discretionary design decisions, either by designing a product itself or approving specifications prepared by the contractor." Id. at 1316. It is only under these circumstances that the contractor shares the government's immunity. The opinion was written by Supreme Court Justice Lewis Powell, sitting by designation, who concluded his discussion of the government

contractor defense with this observation:

> Although the defense may sometimes seem harsh in its operation, it is a necessary consequence of the incompatibility of modern products liability law and the exigencies of national defense.

Id. at 1322.

The district court found support for its decision to grant McDonnell Douglas summary judgment in Kleemann v. McDonnell Douglas Corp., 890 F.2d 698 (4th Cir.1989), cert. denied, 495 U.S. 953, 110 S.Ct. 2219, 109 L.Ed.2d 545 (1990). Kleemann resembles the present case in many ways. There the (CITE AS: 993 F.2D 558, *560)
plaintiffs' decedent was killed in the crash of a Navy fighter aircraft as it landed. The Navy concluded that the accident was caused, at least in part,

by failure of a part of the landing gear. The plaintiffs alleged that the landing gear failed to meet a Military Specification requirement that it withstand normal landing loads without causing uncontrolled motion of the plane. The defendant in Kleemann argued that the requirement in the Military Specification was not a "reasonably precise requirement" referred to in Boyle. The district court agreed and granted summary judgment for the defendant.

The court of appeals affirmed, distinguishing between quantitative specifications that detail particular requirements to be met in manufacturing military hardware and "general qualitative specifications" promulgated during early stages of procurement. Id. at 702. The court concluded that general requirements on the "ability to

withstand normal loads and prohibitions against operational failures represent little more than the hopes of participants that the project on which they are about to embark will turn out well." Id. at 703. Further, the court stated that "a product conforms to reasonably precise specifications if it satisfies 'an intended configuration' even if it 'may produce unintended and unwanted results.' " Id. (quoting *Harduvel*, 878 F.2d at 1317).

Throughout its opinion, the Kleemann court emphasized the long exchanges of views between the Navy and the contractor, treating continuous government participation throughout the procurement process as the "salient fact" in establishing the government contractor defense. 890 F.2d at 701. In Stout v. Borg-Warner Corp., 933 F.2d 331 (5th Cir.1991), cert. denied, ---

U.S. ----, 112 S.Ct. 584, 116 L.Ed.2d 609 (1991), the court adopted the same approach. Affirming summary judgment for the defendant contractor, the Stout court found that rather than rubber-stamping the contractor's "reasonably precise design drawings," the Army thoroughly reviewed and critiqued the contractor's work at various stages of design and testing and thoroughly evaluated actual performance over a period of months. Id. at 336.

III.

The parties' arguments address the issues as framed in the decisions described above.

A.

The plaintiff agrees that McDonnell Douglas established the first and third requirements for the contractor defense. She argues, however, that the defendant failed to establish the second condition

--that the helicopter conformed to the reasonably precise specifications. She points out that the defendant concedes that the Detail Specification for CH-6A incorporated MIL-S- 8698 by reference. The incorporating language, contained in paragraph 2.1 of the Detail Specification reads as follows:

2.1 Applicable Documents. The following documents ... shall form a part of the Specification, in their entirety, except as limited in subsequent paragraphs and except for any deviations thereto which are set forth in Appendix II....

Among the documents listed was MIL-S-8698, Structural Design Requirements, Helicopters, dated 1 July 1954. Paragraph 3.6.5.3, captioned

Rotor blade clearance, as pertinent here, reads as follows:

> The design of the rotor system(s) shall be such that, upon installation on the helicopter, there shall be sufficient clearance of the blades to the ground, to each other, and to other parts of the helicopter.... During operation in all flight regimes, the clearance between main rotor blades and other parts of the helicopter shall not be less than 9 inches, and preferably 12 inches.... The design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter....

The plaintiff argues that even though the Army approved the Detail Specification and accepted delivery of

OH-6As, insofar as McDonnell Douglas failed to meet the requirements of the incorporated MIL-S, the helicopter did not conform. If the defendant determined that it was impossible to design a helicopter that met the clearance requirements of the incorporated specifications, it had two options, according to the plaintiff. McDonnell Douglas could either have declined to build the OH-6A or it could have sought a deviation from this requirement. Appendix II contains 43 pages of deviations, but none relate to MIL-S-8698 P 3.6.5.3.

Distinguishing Kleemann, the plaintiff contends that the incorporated specifications in this case are not "general" or "qualitative." On the contrary, she insists, a speci- fication that requires a helicopter so designed "as to preclude the possibility of the

[rotor] blades striking each other or any part of the helicopter," and then establishes clearance minimums of "not less than 9 inches, and preferably 12 inches," is most specific and "quantitative."

The plaintiff denies that the Army's acceptance of OH-6A helicopters from the defendant proves conclusively that the helicopters conformed to all reasonably precise specifications. If that were so, all other evidence would be redundant; a manufacturer whose equipment is accepted would automatically be clothed with immunity. Rather than granting summary judgment to the defendant, the plaintiff contends that the district court should have submitted to the jury the question

whether the incorporated requirement is a "reasonably precise specification."

B.

McDonnell Douglas argues that the plaintiff failed to meet her burden of pointing to evidence that establishes the existence of genuine issues of material facts. An expert's assertion in an affidavit in support of summary judgment that the "governing" specifications are contained in the Detail Specifications while the incorporated MIL-S contains "lower tier specifications" is uncontradicted. In addition, when there is conflict between the Detail Specification and such lower tier specifications, according to the affidavit, the Detail Specification always controls.

The truth of the affiant's statements, the defendant maintains, is shown by a number of undisputed facts.

First, MIL-S-8698 was promulgated before the OH-6A aircraft was proposed. The Military Specification contains a "general and generic" set of criteria that refers to all types of helicopters, not this specific model, which is a single engine, single main rotor, light observation helicopter. (Portions of the specifications which we deleted for clarity, do refer to "multirotor configurations.") Second, as each OH-6A was delivered, the Army checked it against the Detail Specifications, not against general specifications, before accepting it. Third, while MIL-S-8698 P 3.6.5.3 contains some specific details (9 to 12 inch clearance), taken as a whole it is only a precatory statement of the Army's goal of obtaining helicopters that are safe from rotor blade/tail boom contact in normal flying conditions. When a

helicopter goes into "autorotation," a descent without power, there is always a possibility that the rotor blades will begin to flap and strike other parts of the aircraft.

McDonnell Douglas relies on the years of continuous contact between it and the Army during the procurement, prototype testing and production phases of the OH-6A as evidence that it is entitled to rely on the government contractor defense. The Army conducted its own inspections and test flights and had technical personnel in the plant monitoring the defendant's performance during production. The design of the rotor system referred to its placement, dimension and construction--all precisely prescribed in the Detail Specification. Finally, McDonnell Douglas argues that the Army's approval of the final design for the OH-6A and

its issuance of a conformity certificate for serial number 68-17276, the helicopter in which CWO Landgraf was a passenger, constituted the exercise of discretion. It is this discretionary function that shields the contractor from tort liability.

At oral argument the plaintiff refuted the defendant's claims of a "governing" vs. "lower tier specifications" dichotomy. Counsel insisted that the MIL-S- 8698 specifications are binding and that McDonnell Douglas was bound to conform to them or obtain a deviation. Also, for the first time, counsel suggested that the unusual conditions at the time of the crash made this a case for the jury.

In response the defendant repeated its contention that only the Detail Specification contained the mandatory design requirements for the OH-6A model.

With respect to the situation immediately before the crash, the defendant argued that the undisputed evidence of the helicopter's loss of power and autorotation established conditions so far outside the "design parameters" of the aircraft that normal functions could not be maintained.

IV.

This case differs in some respects from any other we have seen dealing with the government contractor defense. If it were controlled by strict contract principles, it would be hard to sustain the defendant's position. The language incorporating MIL-S-8698 appears to be clear and unqualified. As such, under contract law, its contents would be binding on McDonnell Douglas unless they conflicted with provisions of the Detail Specification, and there appears to be no conflict. We are convinced, however,

that the Army's actions throughout the procurement process support the defendant's claim that the provisions of MIL-S- 8698 did not govern the design of model OH-6A.

A.

[2] We review an order granting summary judgment de novo. There is no contradiction in the evidence relating to the procurement, design, testing and acceptance of the OH-6A model helicopter by the Army. Hughes submitted the Detail Specification for the helicopter to the Army in 1965 following several years of planning, the delivery of prototype aircraft and testing by both the FAA and the Army. The Detail Specification contained many changes in the original design that resulted from exhaustive testing. The Army's testing was concerned with mission performance and reliability. Even after the Army

awarded the contract, it continued flight testing during production. The undisputed affidavit of the expert witness Crawford, who oversaw development of

(CITE AS: 993 F.2D 558, *562)

contract technical specifications for the Army's light observation helicopters, states that once the Hughes bid was accepted, no changes could be made in the specifications except as directed by the Army in writing. Crawford also managed the development of the OH-6A from 1966 to 1988. According to Crawford, each OH-6A was "progressively and continuously" inspected by the Army throughout production, and no craft could be certified as completed by the manufacturer until it had been checked against the Detail Specification and

approved by Army inspectors at the plant.

The expert witness Leib, who headed Hughes' test program during the relevant time, stated in his affidavit that before production began Hughes built and delivered seven prototypes of model OH-6A to the Army for testing. This testing by the Army involved hundreds of hours of flying and led to many design changes before publication of the Detail Specification in 1965. Continuing testing after award of the bid, the Army in *563 February 1966 called for a product improvement program for the OH-6A. The Army incorporated some design changes following this investigation of ways to improve the mission capability of the helicopter and reduce its operating costs.

Leib also stated that in July and August 1969, additional tests were

conducted at the Army's request to evaluate possible effects of "control motion and subsequent main rotor blade motion on the tailboom." These tests were in response to an incident in which the main rotor of an Army helicopter struck the tail boom at the termination of a power-off landing (autorotation) during testing. There was no rotor blade/tail boom contact during these 1969 tests, although the main rotor blade came within three inches of the tail boom during one landing simulating severe conditions that exceeded "normal pilot technique."

Although these tests demonstrated that under normal rotor/airframe alignment, the rotor blades would not strike the tail boom even following severe control movements, Hughes recommended additional testing to investigate the matter further. The

record contains no response to this request. As noted, the Army continued to certify model OH-6A as conforming and to accept aircraft, including the helicopter that crashed nearly 20 years after its delivery and acceptance in August 1969.

B.

The plaintiff produced no proof in contradiction of the evidence recited above. She placed principal reliance upon the deposition of the expert Cochran as demonstrating the existence of genuine issues of material fact. This witness testified, however, that the rotor on a single main rotor helicopter could strike the body of the aircraft on most of the helicopters he was familiar with, and he was not aware of any helicopter on which a rotor strike could not potentially occur. The probability of a strike occurring

was less on some models than others, he stated, and changing the design could "lessen the vulnerability" for such a strike.

Although she refers to issues of material fact, the true thrust of the plaintiff's argument appears to be that, as a matter of law, McDonnell Douglas was not entitled to judgment on the basis of the government contractor defense. She relies on the documentary evidence with admissions by the defendant and its experts that MIL-S-8698 was incorporated into the Detail Specification. She argues that having failed to obtain a deviation from the incorporated specifications, which the plaintiff contends are "reasonably precise," McDonnell Douglas failed to conform to the design approved by the Army and thus cannot rely on the defense.

C.

We conclude that the district court properly granted summary judgment in favor of the defendant. Although it is not clear form the record exactly what caused the helicopter's erratic movements prior to the main rotor's striking the tail boom, the somewhat different observations of the eyewitnesses did not raise a material issue of fact. It is undisputed that the fatal crash was caused by the striking and severing of a portion of the tail boom. The question is whether the fact that this event occurred during an autorotational landing raised an issue of fact whether the OH-6A failed to conform to Army-approved design specifications for the single engine, single main rotor, light observation helicopter that Hughes contracted to build.

Our study of the record leads to the conclusion that the Army was aware of the danger that a rotor blade could strike the tail boom of a helicopter during unusual conditions. An Army report dated May 1967 on continued engineering flight tests of the OH-6A conducted at Edwards Air Force Base, California, discussed autorotational descents and landings. The report and the pre-1988 Army's Operator's Manual for OH-6A both contain warnings about the necessity for care during autorotational operation. When the Army authorized the additional tests to investigate rotor/tail boom clearance in 1969, its request to Hughes to conduct these tests stated:

> The final result of this effort will be the determination of possible changes to the OH-6A configuration leading to a

reduction in the probability of tail boom strikes.

The Army apparently did not believe there could be a complete elimination of the probability of such strikes, only a reduction in that probability.

Although Hughes reported to the Army that there was a clearance of as little as three inches in one or more of the simulated autorotational landings--not the 9 to 12 inches mentioned in MIL-S-8698--the Army ordered no further changes in the configuration. This is strong evidence that the Army considered the contents of MIL-S-8698 as stating a desirable goal and a recommended way of achieving it, but not precise specifications. We do not believe the Army treated the MIL-S-8698 as formulating mandatory requirements. By permitting production to continue without any change in design

following the 1969 tests, the Army made a discretionary decision to not insist on the clearance recommended in MIL-S-8698. Regardless of the original purpose of incorporating that specification into the governing document for the OH-6A, by acquiescing in the continued production without change and acceptance and certification of helicopters produced thereafter, the Army treated MIL-S-8698 as a precatory statement.

Our decision does not mean that whenever the government cooperates closely with a contractor in the design and development of military equipment and approves the equipment after testing the second prong of the Boyle test is satisfied, regardless of the language used in the contract. Nor should this opinion be read as recognizing a "lower tier/higher tier"

distinction among requirements in military contracts. We hold only that the facts in this case establish that no design has produced a helicopter, in which the main rotor can never strike the tail boom under any set of conditions. The fact that MIL-S-8698 P 3.6.5.3 was adopted twelve years before planning for the OH-6A began and was addressed to many different helicopters reenforces our conviction that it was a precatory statement only. When Hughes conducted the simulated landing tests that produced only a three inch clearance, the Army did not order additional testing or design changes. This was an exercise of discretion.

Boyle makes clear that the government contractor defense is intended to protect military contractors from state tort liability when they produce equipment conforming

to design specifications adopted by government agencies in exercise of their discretion. This is such a case. We agree with the interpretations of Boyle reached by the *Harduvel* and *Kleemann* courts as well.

The judgment of the district court is affirmed.

NATHANIEL R. JONES, Circuit Judge, dissenting.

In the majority opinion, Judge Lively has thoughtfully and thoroughly presented the issue raised on this appeal. Though I consider it a close question, I am not convinced that the record conclusively shows that the Army acquiesced in a Detail Specification which would permit the main rotor blade to chop off the tail boom. Since I believe that Plaintiff-Appellant Patricia Landgraf has raised a genuine issue as to whether MIL-S-8698 P 3.6.5.3

was a "reasonably precise specification" accepted by the United States, I would reverse the district court's grant of summary judgment and remand the case so that this matter might be resolved by the trier of fact. Cf. Boyle, 487 U.S. at 514, 108 S.Ct. at 2519 ("It is somewhat unclear from the Court of Appeals' opinion ... whether it was in fact deciding that no reasonable jury could ... have found for the petitioner on the facts presented, or rather was assessing on its own whether the [government contractor] defense had been established. The latter ... would be error, since whether the facts establish the conditions for the defense is a question for the jury."). As pointed out in Judge Lively's opinion, MIL-S-8698 P 3.6.5.3 was incorporated by reference into the Detail

Specification for the helicopter in question. MIL-S-8698 P 3.6.5.3 was extremely specific and quantitative in its discussion of main rotor blade-tail boom interaction:

> The design of the rotor system(s) shall be such that, upon installation on the helicopter, there shall be sufficient clearance of the blades to the ground, to each other, and to other parts of the helicopter.... During operation in all flight regimes, the clearance between the main rotor blades and other parts of the helicopter shall not be less than 9 inches, and preferably 12 inches.... The design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter. (Emphasis added.)

Morton I. Leib, an employee of the Aircraft Division of the Hughes Tool Company/McDonnell Douglas from 1961 to 1991 and one intimately familiar with the design, testing, approval and production of the OH-6A having managed the OH-6A program at its inception and throughout its production life, described that a provision of an incorporated document might not be considered a part of the Detail Specification if a "deviation" is listed in the appendix to the Detail Specification, or if the provision in question is rewritten such that a deviation is not required. Appendix II to the Detail Specification contains a host of deviations, including numerous deviations from specifications listed in incorporated documents. No deviation, however, is listed for the requirements of MIL-S-8698 P—3.6.5.3, and this

paragraph was not otherwise rewritten to eliminate the requirement that the main rotor blade not strike the tail boom. Notably, deviations were sought and granted for less specific provisions of incorporated documents where it was apparent that the requirements of the provisions could not be met in all flight regimes. For example, the General Requirements for Helicopter Flying and Ground Handling Qualities (3 Apr. 1962) ("MIL-H-8501A") was incorporated into the Detail Specification. Paragraph 3.2.11 of MIL-H-8501A requires that the "helicopter shall exhibit satisfactory dynamic stability throughout the flight envelope." Deviation Number 5 of Appendix II allows that the "OH-6A will not meet this requirement at the critical corners of the flight envelope." Also of note is the fact

that a deviation was granted for another paragraph of MIL-S-8698. Specifically, the requirement of MIL-S-8698 P 3.6.3 that the "hub effective damping shall be at least 30 percent of critical damping" was eliminated. Paragraph 3.4.6 of the Detail Specification echoes this: "The helicopter need not meet the requirements of paragraph 3.6.3 of MIL-S-8698 (see Appendix II, Deviations)." Without considering anything else in the record, it seems clear that the Detail Specification for the helicopter in question contained a reasonably precise specification that the main rotor blade avoid striking the tail boom in all flight regimes. Since, as Judge Lively's opinion notes, "[i]t is undisputed that the fatal crash was caused by the [main rotor blade] striking and severing of a

portion of the tail boom," the helicopter did not conform to this reasonably precise specification, and summary judgment was inappropriate on the basis of the government contractor defense. Admittedly, however, there is more to consider.

As described by Judge Lively, determining the "ultimate" reasonably precise specifications, cf. Kleemann, 890 F.2d at 700, may require exploring the government's involvement with the testing and development of the contract item, and the government's acquiescence in the finished product with knowledge of modifications of the original design. In Kleemann, for example, a Navy pilot was killed when the landing gear on his F/A-18 failed. The surviving spouse and children brought a diversity action against McDonnell Douglas, the contractor that had built the aircraft,

alleging that the gear did not conform to the reasonably precise specifications contained in the Navy's original contract with McDonnell Douglas. Specifically, the plaintiffs indicated that a document incorporated into the detail specification for the F/A-18 contained a provision that the F/A-18 was to "withstand normal landing loads without bending, unlocking or causing uncontrolled motion of the aircraft." Id. Though the court admitted that "the documents referenced by plaintiffs embody part of the universe of specifications to which the landing gear must conform," id. at 702, it held that the provision in question merely presented "precatory goals developed for a product at the start of the procurement process," id. at 700, or "little more than the hopes of participants that the project on which

they are about to embark will turn out well," id. at 703.

In determining the reasonably precise specifications to which the F/A-18 had to conform, the court looked to the entire procurement process which included not just initial contract specifications, but testing, refinements and specific acceptance of such refinements. For example, the initial contract required McDonnell Douglas to submit detailed design drawings to the Navy for approval as the general specifications became embodied in the actual landing gear. The Navy reserved the right to reject drawings and to require revisions and modifications. These working drawings, and not simply the general qualitative specifications from the procurement stage, comprise "the reasonably precise specifications" contemplated by Boyle.

Id. at 702. In addition, "[b]etween 1979, when F/A-18 test flights began, and 1985, the Navy expressly approved or required a substantial number of landing gear design modifications and rejected others." Id. at 703. The plaintiffs claimed that the Navy itself found McDonnell Douglas to be not in conformance with the landing gear specifications for the F/A-18 when it issued a Notice of Defect in 1983. The court responded to this claim by noting that McDonnell Douglas addressed the problem, and, in the end, the Navy specifically approved McDonnell Douglas' modification "and directed that it be incorporated into all new production models, including the aircraft that Kleemann was flying at the time of the accident. On May 24, 1985, the Navy advised [McDonnell Douglas] that the Notice of Defect was

formally closed." Id. at 704. In summary, the court concluded that "[o]nly the detailed, quantitative specifications--and not those calling for such vagaries as a failsafe, simple or inexpensive product--are relevant to the government contractor defense.... [A] product conforms to reasonably precise specifications if it satisfies 'an intended configuration' even if it 'may produce unintended and unwanted results.' " Id. at 703 (citation omitted).

The reasoning of Kleemann is sound. If, after negotiation and modification of an original plan, the military and a contractor agree upon certain specifications for a particular piece of equipment like landing gear-- or main rotor blade and tail boom apparati--and the contractor builds the piece of equipment in conformance with these

specifications, the government contractor defense properly bars state law from imposing liability upon the contractor. Such reasoning furthers the chief policy behind the government contractor defense that "the contractor should not be held liable at law for performing the government's bidding" (because, the military may, at times, choose to sacrifice a certain measure of safety for performance). Id.

That said, I return to the instant case to determine whether the record demonstrates that the reasonably precise specifications of MIL-S-8698 P 3.6.5.3 were superseded by subsequent actions such that the "ultimate" reasonably precise specifications for the helicopter in question did not mandate that the main rotor blades never touch the tail boom. The first example of such a potential modification is that

the Army, having directed that tests of the OH- 6A's main rotor blade motion be conducted, seemed to accept the test results (prepared by Hughes Tool Company, Aircraft Division, on September 26, 1969) that the main rotor blades came to within three inches of the tail boom, whereas MIL-S-8698 P 3.6.5.3 requires a greater clearance. Landgraf has apparently introduced no evidence to the effect that the Army, knowing this, required a design modification to increase the three-inch minimum clearance to the nine-inch clearance required by MIL-S-8698 P 3.6.5.3. The government's acceptance of the helicopter with full knowledge of the three-inch minimum clearance might be taken as a modification of the initial reasonably precise specifications.

The problem remains, however, that MIL-S-8698 P 3.6.5.3 also states: "The

design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter." (Emphasis added.) Thus, even if the government acquiesced in a three-inch minimum clearance, more must be shown to demonstrate that it accepted the possibility that a main rotor blade would strike the tail boom.

While the OH-6A helicopter was still in the testing stage of development, it appears from the record that a main rotor blade *567 struck a tail boom at the termination of a power-off landing. As a consequence, the Army requested more testing "for the purpose of investigating tail boom strikes on OH-6A [aircraft].... The final result of this effort [was to be] the determination of possible changes to the OH-6A configuration leading to a reduction in the probability of tail boom strikes."

While the majority takes the latter statement to mean that "[t]he Army apparently did not believe there could be a complete elimination of the probability of such strikes, only a reduction in that probability," it is conceivable and not unreasonable to infer that the Army wished to reduce that probability to zero, given the devastating nature of such an eventuality.

Hughes conducted the requested tests, which yielded the results referred to above, namely, that the main rotor blade on the OH-6A tested came to within three inches of the tail boom. The report on these tests concluded: "The abrupt full aft cyclic and full down collective motions used in this test were intended to simulate a severe autorotational landing condition. It is felt that these abrupt motions, to

the critical control limits, exceed the normal pilot technique." The report did recommend further testing, however, to account better for variables which were not taken into account in the tests performed.

There is no evidence in the record that the Army responded to this report. Did the Army believe that the variables not taken into account during these tests would not diminish the clearance further? Was the Army convinced from this report that the prior tail boom strike incident was the result of a manufacturing, as opposed to a design, defect? If so, the military did not necessarily accept a modification of the no-strike requirement of MIL-S-8698 P 3.6.5.3 or "treat[ ] MIL-S-8698 [P 3.6.5.3] as a precatory statement." Other possible evidence of a modification of MIL-S-8698 P 3.6.5.3 is

the OH- 6A's Operator's Manual (July 1969) which states, in pertinent part: "WARNING [:] When a pitch down condition exists, it is imperative that abrupt lowering of the collective and erratic movement of the cyclic control be avoided to prevent a rotor blade strike on the tail boom." From this, it might be argued that the government knew, accepted, and warned operators of the fact that, under certain conditions, a rotor blade might strike the tail boom. But even if the Operator's Manual evidences the "ultimate" reasonably precise specifications regarding whether the OH-6A was to be constructed so as to preclude the possibility of a main rotor blade-tail boom strike, it merely allows such a strike to occur upon an "abrupt lowering of the collective and erratic movement of the cyclic control"

during a "pitch down condition." If such a condition did not exist during CWO Landgraf's test flight, the no-strike provision of MIL-S-8698 P 3.6.5.3 would arguably control. Whether or not the condition existed is a question of fact for the factfinder. And there does not seem to be enough evidence in the record as it stands to say whether the condition did or did not exist so as to remove the question from the factfinder. Furthermore, while an Operator's Manual may constitute some evidence to support the argument that MIL-S-8698 P 3.6.5.3 was modified, it does not, in my view, conclusively show that MIL-S-8698 P 3.6.5.3 was superseded for purposes of the government contractor defense (as, for example, an amendment to the Detail Specification or active government involvement in further testing and

development of the main rotor blade and tail boom apparati might).

The evidence in this case of a modification of MIL-S-8698 P 3.6.5.3 is certainly less clear than the modifications held to constitute the "ultimate" reasonably precise specifications in Kleemann, for example. And MIL-S- 8698 P 3.6.5.3 is certainly less "precatory" and more "quantitative" than the specifications at issue in Kleemann. All told, the evidence that the government acquiesced in a modification of MIL-S-8698 P 3.6.5.3 is, in my view, simply not sufficient to say that "there is no genuine issue as to any material fact and that [McDonnell Douglas] is entitled to a judgment as a matter of law." FED.R.CIV.P. 56(c). Did the helicopter design at issue in this case conform to the reasonably precise specifications

approved by the United States? This is essentially a question of fact. The factfinder must determine what the "ultimate" *568 reasonably precise specifications were and whether the helicopter conformed to them. Boyle, 487 U.S. at 514, 108 S.Ct. at 2519. What were the "ultimate" reasonably precise specifications as they relate to the main rotor blade-tail boom clearance in this case? Based on one's view of the record evidence, the answer to this question could lie anywhere between no clearance at all and nine inches, with three inches being a reasonable possibility. And one's answer essentially determines the availability of the government contractor defense. Since the "pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits," FED.R.CIV.P. 56(c),

viewed in a light most favorable to the nonmoving party, see Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255, 106 S.Ct. 2505, 2513, 91 L.Ed.2d 202 (1986), show there to be a genuine issue of fact on an issue critical to whether McDonnell Douglas is entitled to the government contractor defense in this case, I would reverse the grant of summary judgment, and remand the case for further proceedings.

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

PATRICIA LANDGRAF, Executrix of the Estate of Jerome Landgraf,
Plaintiff-Appellant,

v.

McDONNELL DOUGLAS HELICOPTER COMPANY, et al.,
Defendants-Appellees.

ORDER

BEFORE: JONES and NELSON, Circuit Judges; and LIVELY, Senior Circuit Judge.

The court having received a petition for rehearing en banc, and the petition having been circulated to only to the original panel members but also to all other active judges of this court, and no judge of this court having requested a vote on the suggestion for rehearing en banc, the petition for rehearing has been referred to the original hearing panel.

The panel has further reviewed the petition for rehearing and concluded that the issues raised in the petition were fully considered upon the original submission and decision of the case. *According, the petition is denied.

ENTERED BY ORDER OF THE COURT

/s/
Leonard Green, Clerk

Supreme Court, U.S.
FILED
NOV 4 1993
OFFICE OF THE CLERK

No. 93-570

In The

Supreme Court of the United States

October Term, 1993

PATRICIA LANDGRAF,

Petitioner,

v.

McDONNELL DOUGLAS HELICOPTER COMPANY,

Respondent.

On Petition For A Writ Of Certiorari
To The United States Court Of Appeals
For The Sixth Circuit

RESPONDENT'S BRIEF IN OPPOSITION

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QUESTIONS PRESENTED

Respondent, McDonnell Douglas Helicopter Company, restates the questions presented as follows:

1. Whether there was any evidence that the design of the OH-6 helicopter failed to conform to reasonably precise specifications approved by the Army.

2. Whether conformity will be measured against a lower tier, precatory specification, in the event of a conflict between the lower tier specification and the detail specification and/or evidence of an election by the Army of a design in conflict with such lower tier specification.

3. Whether there is a special or important reason demonstrated in Petitioner's Petition for Writ of Certiorari sufficient to support granting of same, to include:

> a. Whether the United States Court of Appeals for the Sixth Circuit has rendered a decision in conflict with the decisions of this Court or another United States court of appeals on the same matter; or,
>
> b. Whether the United States Court of Appeals for the Sixth Circuit has so far departed from the accepted and usual course of judicial proceedings as to call for the exercise of this Court's power of supervision.

DISCLOSURE OF CORPORATE AFFILIATIONS

Pursuant to Rules of the Supreme Court of the United States, Rules 15, 24 and 29.1, McDonnell Douglas Helicopter Company states that since its last disclosure on July 28, 1992, McDonnell Douglas Helicopter Company has begun doing business as McDonnell Douglas Helicopter Systems. McDonnell Douglas Helicopter Company d/b/a McDonnell Douglas Helicopter Systems is a wholly owned subsidiary of the McDonnell Douglas Corporation.

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PATRICIA LANDGRAF,

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v.

McDONNELL DOUGLAS HELICOPTER COMPANY,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Sixth Circuit

RESPONDENT'S BRIEF IN OPPOSITION

The Respondent, McDonnell Douglas Helicopter Company, respectfully requests that this Court deny the Petition for Writ of Certiorari seeking review of the Sixth Circuit's opinion in this case. That opinion is attached to Petitioner's brief as Appendix No. 2.

STATEMENT OF THE CASE

This case arises from the crash of an Army OH-6C helicopter. The manufacturer of that helicopter was Hughes Tool Company – Aircraft Division ("Hughes"), now McDonnell Douglas Helicopter Company

("MDHC"). Plaintiff has alleged certain causes of action against MDHC related to the design of that helicopter. MDHC moved for summary judgment on the basis of the government contractor's defense as annunciated by this Court in *Boyle v. United Technologies Corporation*, 487 U.S. 500 (1988).

In *Boyle* the Court determined that "the selection of the appropriate design for military equipment to be used by our Armed Forces is assuredly a discretionary function . . . " *Boyle*, 487 U.S. at 511. The Court concluded that "second-guessing" of those decisions through tort suits should not be permitted and that state law holding contractors liable for design defects in military equipment should be displaced. The Court cited the following as elements of the government contractor defense:

1. That the United States approved reasonably precise specifications;
2. That the equipment conformed to those specifications; and
3. That the supplier warned the United States about the dangers in the use of the equipment that were known to the supplier, but not to the United States.

Boyle, 487 U.S. at 512.

Summary judgment, in favor of MDHC, was granted and subsequently affirmed by the United States Court of Appeals for the Sixth Circuit. *Landgraf v. McDonnell Douglas Helicopter Company*, 993 F.2d 558 (6th Cir. 1993).

There is no dispute in this case as to the first and third elements of the government contractor's defense. The sole question at issue here is whether the subject

helicopter conformed to the reasonably precise specifications approved by the United States.

The crash in question occurred following an apparent engine failure or other loss of power. During a power-off emergency descent (known as autorotation), one of the main rotor blades of the subject helicopter contacted the tail boom. The tail boom subsequently separated from the aircraft.

At issue is military specification MIL-S-8698, *Structural Design Requirements, Helicopters* (usually spoken "mil spec 86 98"). (JA: 282). That specification was incorporated by reference into the detail specification, *Detail Specification for a Single Engine, Single Main Rotor Light Observation Helicopter Army Model Designation OH-6A* ("Detail Specification"). (JA: 045).

MIL-S-8698 contains the following language: "During operation in all flight regimes, the clearance between main rotor blades and other parts of the helicopter shall be not less than 9 inches, preferably 12 inches. . . . The design of the rotors shall be such as to preclude the possibility of the blades striking each other or any part of the helicopter." (JA: 288).

It is Petitioner's contention that because the helicopter in question was struck by its own rotor, it did not comply with MIL-S-8698 and therefore did not comply with the detail specification. Respondent disputes Petitioner's statement on page 10 of her Petition for Writ of Certiorari where she states that it is uncontroverted that the helicopter did not comply with MIL-S-8698.

In order to understand the issue of whether the helicopter conformed to reasonably precise specifications approved by the United States, it is necessary to understand the two referenced specifications.

***Detail Specification for a Single Engine, Single Main Rotor Light Observation Helicopter Army Model Designation OH-6A* (JA: 045)**

This specification, hereinafter "Detail Specification," is the document that contains the precise specifications for the manufacture of the OH-6 helicopter. It is nearly 200 pages long and incorporates the results and experience of an extensive joint development program, conducted by the Army, Hughes and the FAA. That development program spanned several years and included nearly 5,000 hours of flight testing. (JA: 027 – 33, Affidavit of Charles Crawford; R: 36b., MDHC Motion for Summary Judgment, Exhibits D, E, H & I). The Detail Specification reflects many changes and modifications to the initial design and to the prototype helicopters required by the Army to improve the helicopter's mission capability, increase its reliability and reduce its operating costs.

The Detail Specification prescribes the exact configuration and dimensions of the OH-6 helicopter, the materials to be used, the construction processes, the configuration and the performance criteria for the finished product. Once that document was approved and the production contract awarded to Hughes, the specifications contained in the Detail Specification were frozen. No deviation or change could take place unless approved and ordered by the Army. (JA: 032 – 33).

The Detail Specification includes, among other things, specifications for the length and width of the main rotor blades, the manner they were to be attached to the main rotor hub, the materials they were to be made of, the manner of design, construction and operation of the main rotor flapping hinges and blade restrainers, the main rotor operating speeds, operating and design limitations for the main rotor system, the configuration of the tail boom and airframe, and all dimensional criteria for the aircraft. (JA: 116 – 25). Although the Detail Specification does not address directly the minimum clearance of the main rotor blades from the rest of the aircraft during flight operations, those clearances are determined by the detailed configuration and construction criteria contained therein.

It was the Detail Specification against which the helicopter was checked for conformity by the Army. (JA: 033). The aircraft was inspected throughout production by Army personnel and at the time of delivery. (JA: 033). The helicopter was accepted by the Army only after it was determined to be in compliance with the Detail Specification. (JA: 033, 265).

Charles Crawford was Deputy Project Manager for the development and procurement of the OH-6 helicopter for the Army. He was responsible for, among other things, the development of the technical specifications for the OH-6. During the process, he became Chief of the Development and Qualifications Division of the Army Aviation Systems Command (AVSCOM) and later Technical Director of AVSCOM. In his affidavit, (JA: 027), Mr. Crawford explains the system of specifications for aircraft contracts, as outlined above.

The Detail Specification incorporates by reference 35 other documents, including the Civil Air Regulations, Military Specifications and Army Regulations. Another 59 documents are incorporated in the appendices, including 22 additional military specifications. Military Specification MIL-S-8698, at issue here, is included among the 41 different military specifications incorporated.

There is no evidence nor is there any contention that the subject helicopter did not fully comply with the specific and detailed requirements of the Detail Specification, itself. The helicopter that is the subject of this suit was inspected and accepted by the Army as complying with those specifications. (JA: 033, 263, 265) Petitioner's contention of non-conformance is based on her allegation that the helicopter did not comply with a particular lower tier specification, MIL-S-8698.

***Military Specification, MIL-S-8698 Structural Design Requirements, Helicopters* (JA: 282)**

MIL-S-8698 was promulgated by the Navy and approved by the Air Force in 1954, more than six years before the OH-6 program began. It contains general design criteria applying to all helicopters, from the smallest observation helicopters to the largest, multi-engine, multi-rotor cargo helicopters. It contains both general criteria such as "sufficient strength shall be provided . . . " and more specific goals such as the 9 – 12 inch main rotor clearance that is at issue here.

MIL-S-8698 continued in force for at least 27 years, with only a minor change referencing an additional specification regarding noise levels and insulation.

Petitioner contends that because MIL-S-8698 was incorporated into the Detail Specification, the 9 – 12 inch main rotor clearance discussed therein was required on the OH-6 helicopter. As evidence that the OH-6 did not conform to that requirement, Petitioner offers only the fact that at some time during the crash sequence a main rotor blade did come into contact with the tail boom of the subject aircraft.

It is Respondent's position that the helicopter fully complied with MIL-S-8698 and that the blade on the subject helicopter struck the tail boom only after flight and rotor conditions seriously exceeded the operational design parameters of the aircraft. In fact, Petitioner's own expert testified that in most of the helicopters he knows about, the main rotor can strike the airframe and that the various design differences merely increase or decrease the vulnerability of the aircraft to such strikes. (JA: 324 – 25, Deposition of John Cochran). However, it is not necessary to ascertain whether the OH-6 complied with MIL-S-8698 to determine that the decisions of the courts below were correct.

SUMMARY OF THE ARGUMENT

The subject helicopter fully conformed to the "reasonably precise specifications" approved by the United States. The specification with which conformity was required was the Detail Specification. MIL-S-8698 is a lower tier, precatory specification, not the ultimate design specification with which conformance must be measured.

If, for the sake of argument, it is assumed that the OH-6 did not comply with the subject provision of MIL-S-8698, it is also true that such deviation with MIL-S-8698 was the direct result of conformity with the Detail Specification. In the instance of such a conflict, the Detail Specification would control, and would still be the specification against which conformity must be measured. (JA: 032).

The holding of the Sixth Circuit in this matter is in accord with established case law on the specific issue presented in this case. There are no conflicts with other decisions, nor is there any other special or important reason justifying the granting of a Writ of Certiorari in this case.

REASONS THE WRIT SHOULD NOT BE GRANTED

This issue has been previously addressed in *Kleeman v. McDonnell Douglas Corporation*, 890 F.2d 698 (4th Cir. 1989), *cert. denied* 495 U.S. 953 (1990). In *Kleeman* the court held that the precatory goals developed for the product at the start of the procurement process do not establish the "reasonably precise specification" to which the product must conform.

Captain Kleeman was fatally injured when the landing gear on his F/A-18 aircraft failed during landing. His surviving spouse contended that the landing gear did not conform to specifications because MIL-S-8863A, incorporated into the detail specification for the F/A-18 required that the landing gear withstand normal landing loads

without bending, unlocking or causing uncontrolled motion of the aircraft.

"[T]he operative question was whether the product conformed to the 'ultimate design specification,' not qualitative, precatory specifications used in the procurement process." *Kleeman*, 890 F.2d at 700. "The ultimate design of the product is determined not only by the original procurement and contract specifications, but also by specific, quantitative engineering analysis developed during the actual production process." *Id.* at 702.

"[A] product conforms to reasonably precise specifications if it satisfies 'an intended configuration' even if it 'may produce unintended and unwanted results.' " *Id.* at 703, *citing Harduvel v. General Dynamics Corporation*, 878 F.2d 1311, 1317 (11th Cir. 1989), *cert. denied* 494 U.S. 1030. In this instance, the OH-6 helicopter conformed to the ultimate specification for that helicopter, as required by the Detail Specification. The fact that MIL-S-8698 is a specification with detail does not elevate it to the Detail Specification, the reasonably precise specification approved by the Army for the OH-6.

The *Kleeman* court recognized the dilemma created by the typical government contract incorporating a number of guidelines and specifications applied generally to the design of military products. That court determined that as a matter of law, the final detailed specification for the particular product itself governed and would be the specification against which conformity would be measured. The fact that one or more of the incorporated specifications may be specific or detailed cannot permit it to control the ultimate design selected by the procuring

agency. Whether lower tier specifications incorporated by reference are broad and general or precise does not change the fact that they are precatory specifications used to guide the general procurement process. Whether the ultimate design choice conforms to the precatory specifications or not, it is that ultimate design, as embodied in the Detail Specification, that governs the contractual requirements and responsibilities of the contractor.

It is important to remember that Petitioner's complaint is about the *design* of the OH-6. There is no evidence and no complaint of a manufacturing defect. Every aspect of design specific to the OH-6 helicopter is contained within the Detail Specification.

MIL-S-8698 is concerned only with general design issues in military helicopters and is not addressed to any specific branch of service, design or helicopter. MIL-S-8698 specifies that the design of rotor systems should be such that clearance between the main rotor blades and other parts of the helicopter will be not less than 9 inches. However, it is the Detail Specification, as approved by the Army, that provides the *actual* design requirements for the OH-6 helicopter. It is the Detail Specification that determines the *actual* clearances between the rotor system and other parts of the helicopter for the OH-6 helicopter.

The Detail Specification provided the specific design, construction, material, dimensional and configuration requirements for the OH-6 helicopter. The contractor was not free to deviate from the Detail Specification, absent Army approval and order. (JA: 032 – 33). If the OH-6 failed to conform with rotor clearance dimensions contained in MIL-S-8698, such non-conformance would be

the result of the helicopter's conformance with the Detail Specification. (To put it another way – Assuming that the OH-6 did not comply with the separation requirements of MIL-S-8698, Hughes could not change the design of the helicopter to achieve the greater clearance [raising the height of the main rotor mast, for example], unless the Army directed such a design change. In other words, Hughes was stuck with the design details contained within the Detail Specification, whether they produced a helicopter that conformed to the lower tier specifications or not and only the Army had the power to cause the design to be changed.)

At worst, there is a conflict between the Detail Specification and MIL-S-8698. In that instance, the requirements of the Detail Specification would prevail. The fact that the specific will govern the general is common sense, the holding of *Kleeman*, and the specific understanding of the Army. (JA: 032).

Finally, the Army was well aware of the fact that the potential existed for the main rotor of the OH-6 to strike the tail boom. Since they knew this fact, and since they continued to require Hughes to produce and deliver the helicopter in strict compliance with the Detail Specification, it is obvious that the Army either:

1. Knew that the condition(s) that make such strikes possible are beyond the operational parameters contemplated by MIL-S-8698 (therefore, such strikes were not indicative of non-conformance); or

2. Did not consider the non-conformance, if any, with the lower tier specifications to be

non-conformance with the Detail Specification.

Either way, the Army knowingly continued for many more years to procure and accept the OH-6 helicopter with this condition or potential. It is clear that the Army exercised its discretion and for its own reasons, determined that the design of the OH-6 helicopter, even with the potential for such blade strikes, was nevertheless conforming to the Detail Specification.

Petitioner argues that the Army may have believed that the potential for such rotor strikes existed only during certain landing conditions and that there is a fact issue regarding whether the Army consented to such reduced clearance during flight operations. (For a discussion of the background and testing regarding certain blade strikes to the tail boom, see Main Rotor Blade Motion Study, JA: 244 – 61.) This, and related arguments, are merely an exercise in "what if," and are not only not relevant but are wholly contradicted by the evidence. The Army published a warning in the Operator's Manual for the OH-6, TM 55-1520-214-10, that stated that a rotor strike on the tail boom could be induced by certain abrupt and erratic actions. (JA: 268.) That warning is contained in Paragraph 8-8 of the Operator's Manual, "Power On Descent." It is clear from that warning that there were some conditions during which the main rotor could strike the tail boom, *including in flight*, and that the Army knew it.

Following the Main Rotor Blade Motion Study, Hughes recommended that certain design changes be tested for incorporation into the following year's product

improvement program. (JA: 040, 250). Yet, as noted by the courts below, the Army nevertheless continued to purchase the OH-6 without further testing or additional design changes in this area.

In putting the lower tier specifications into perspective (particularly in the context of the OH-6), it might be helpful to note the brief historical background of the procurement process and the selection of the "unconventional design" of the OH-6. (JA: 027 – 33). The Army was interested in the OH-6, in part, because of its small shape and size, its compactness. The design was so unconventional that the Navy (which was originally conducting the selection board) rejected the design outright as "high risk." It was only after a minority paper was filed by an Army board member that the Secretary of Defense directed the board to reconvene and consider the Hughes design. After competitive analysis and testing, the OH-6 design was selected by the Army.

It is clear from this history that the design of the OH-6 did not necessarily conform with the traditional design parameters previously established by the Navy and embodied in MIL-S-8698. It is also clear that the Army, for its own reasons, preferred this unconventional design and that it did not intend that the OH-6 necessarily follow those traditional design criteria. The Army's faith in this design and willingness to depart from the then-prevailing design parameters proved to be justified by the subsequent success and long service life of the OH-6. (JA: 033).

Petitioner must "do more than simply show that there is some metaphysical doubt as to the material

facts." *Matsushita Electric Industrial Company, Ltd. v. Zenith Radio Corporation*, 475 U.S. 574, 586 (1986). Petitioner "must come forward with specific facts showing that there is a genuine issue for trial," *Id.* at 587, *citing* Rule 56(e), FRCP. Respondent was required to adduce more than a scintilla of evidence to overcome the motion for summary judgment. *Street v. J.C. Bradford & Company*, 886 F.2d 1472, 1479 (6th Cir. 1989).

There is no evidence whatsoever that the subject helicopter failed to conform to the design requirements of the Detail Specification. It is clear that the Detail Specification is the "reasonably precise specification" with which the helicopter must conform under *Boyle*. The existence of and/or a conflict with an underlying, lower tier, precatory specification does not change that fact. *Kleeman*, supra.

Further, there is no evidence that the helicopter failed to conform with MIL-S-8698 either. Failure of performance does not "equate as a matter of law with the absence of conformity" under *Boyle*. *In re Aircraft Crash Litigation Frederick, Maryland, May 6, 1981*, 752 F.Supp. 1326 (S.D. Ohio 1990), *aff'd* 935 F.2d 269 (6th Cir. 1991), *citing Kleeman*, 890 F.2d at 700.

MIL-S-8698 requires a certain main rotor clearance during operation in flight regimes. There is much evidence in this case that at the time of this accident, the main rotor speed, and other conditions, were well outside the design envelope for this helicopter. Petitioner's own expert admitted that in some circumstances, most of the helicopters of which he is aware have the potential for a blade to strike some part of the aircraft. (JA: 324). A lack

of blade clearance in conditions and circumstances clearly outside the design parameters of the aircraft can hardly be called non-conforming. While this information, by itself, may not be conclusive, the fact remains that the mere occurrence of an accident does not prove non-conformity, and that there has been no evidence, other than the accident itself, presented that the OH-6 has failed to conform to MIL-S-8698.

Petitioner argues for strict construction of the government contractor's defense and would have a jury determine, after the fact, exactly what the Army knew and/or intended. She would place the jury in the position of resolving the conflicts, if any, between the Detail Specification and the lower tier specifications. This is exactly the situation that the government contractor's defense is intended to avoid.

In formulating the government contractor's defense, the Court clearly stated that liability for design defects in military equipment cannot be imposed when conditions assure that the suit is within the area where the policy of discretionary function would be frustrated. *Boyle*, 487 U.S. at 512.

"Courts are ill equipped to make military judgments, whatever a plaintiff's theory of recovery." *Tozer v. LTV Corporation*, 792 F.2d 403, 408 (4th Cir. 1986), *cert. denied* 487 U.S. 1233. "[T]he reservation of judicial judgment on strictly military matters is sound policy." *Tozer*, 792 F.2d at 405.

CONCLUSION

The design for the OH-6 helicopter was approved by the Army, after considerable participation by both Hughes and the Army. The ultimate design of the OH-6 is embodied in the Detail Specification and it is only against that design document that conformance may be measured. There is considerable evidence that the subject OH-6 helicopter fully conformed to the ultimate design specification and was so accepted by the Army. There is no evidence that the OH-6 helicopter failed to conform in any way with either the Detail Specification or with MIL-S-8698; however, to the extent that there may be any conflict between the Detail Specification and MIL-S-8698, a lower tier specification, the Detail Specification prevails. MDHC has established its entitlement to the government contractor's defense.

The case was correctly decided below, in accordance with *Boyle* and *Kleeman*. There are no decisions in conflict with the decisions of this Court or another United States court of appeals on the same matter.

It is submitted that there is no reason to grant a writ in this case, and that the Court should therefore deny certiorari.

Respectfully submitted,

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